ELECTRICAL AUTOMATION SYSTEMS TOWARDS INTELLIGENT AND ENERGY EFFICIENCY APPLICATIONS

Musse Mohamud Ahmed

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APPLICATIONS

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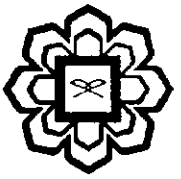

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CHAPTER 11

SOFTWARE AUTOMATION DEVELOPMENT

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This chapter presents software automation development and consists of application of MHI, Service substation and customer substations tags, trending configurations, math functions, IWS application functions and system programming

11.1 Application Tags of Human Machine Interface(HMI)

This software is based on HMI using specific software called IsaGRAF and this will be integrated to GUI based SCADA using another software called Indusoft at the SCADA side. The two software systems are totally integrated together and operated the substation panel very effectively as shown in the experimental results.
Table 11.1 shows the application tags created in SCADA application for the customer service substations panel.

Table 11.1: Service Substation Panel HMI Application Tags

InduSoft			IsaGRAF
Tag Name	Data Types	Address(Decimal)	Variable Name
buttonsv[0]	Boolean	0004	reset_button_sv
buttonsv[1]	Boolean	0041	auto_state_sv
powersv	Boolean	0042	input_sv
comm_status_sv[0]	Boolean	0043	comm_sv
comm_status_sv[1]	Boolean	0044	comm_out_1_sv
comm_status_sv[2]	Boolean	0045	comm_out_2_sv
load_sv[0]	Boolean	0046	load1_sv
load_sv[1]	Boolean	0047	load2_sv
load_sv[2]	Boolean	0048	load3sv
load_sv[3]	Boolean	0049	load4_sv
load_sv[4]	Boolean	0050	load5_sv
load_manual_sv[0]	Boolean	0053	manual1_sv
load_manual_sv[1]	Boolean	0054	manual2_sv
load_manual_sv[2]	Boolean	0055	manual3_sv
load_manual_sv[3]	Boolean	0056	manual4_sv
load_manual_sv[4]	Boolean	0057	manual5_sv
st8_add1sv_A[0]	Real	0061	cur_real_1_sv
st8_add1sv_A[1]	Real	0063	cur_real_2_sv
st8_add1sv_A[2]	Real	0065	cur_real_3_sv
st8_add1sv_A[3]	Real	0067	cur_real_4_sv
st8_add1sv_V[0]	Real	0069	volt_real_1_sv
st8_add1sv_V[1]	Real	0071	volt_real_2_sv
st8_add1sv_V[2]	Real	0073	volt_real_3_sv
st8_add1sv_V[3]	Real	0075	volt_real_4_sv